

Overview of Programs

- Scope, Size, Demographics
 - Scope (College of Engineering)
 - 12 Academic Programs
 - Size
 - 7123 Undergraduate Students
 - Dept. of Mechanical Engineering (1943 students)
 - Dept. of Electrical and Computer Engineering (1696 students)
 - 54.8% Growth Since 2008
 - Demographics
 - 15.4% Women
 - 11.4% Underrepresented Minorities
 - 11.6% International
 - 38.7% Non-Resident

Overview of Programs

➤ Success of our Graduates

- 73% of Graduates are Placed at Graduation
- 95% of Graduates are Placed at Six Months
- Fall 2013 Data (% placed at graduation, average starting salary)

Aerospace Engineering	41%	\$60,960
Agricultural Engineering	62%	\$58,558
Biosystems Engineering	100%	\$59,667
Chemical Engineering	70%	\$66,373
Civil Engineering	75%	\$53,807
Computer Engineering	63%	\$71,625
Construction Engineering	74%	\$54,002
Electrical Engineering	62%	\$64,460
Industrial Engineering	94%	\$61,400
Mechanical Engineering	63%	\$62,063
Materials Engineering	80%	\$65,500
Software Engineering	100%	\$68,715

Overview of Programs

- Prior Accreditation History
 - 10 Programs Had Their Accreditation Renewed (date of initial)
 - Aerospace Engineering (1960)
 - Agricultural Engineering (1936)
 - Civil Engineering (1936)
 - Computer Engineering (1979)
 - Construction Engineering (1976)
 - Chemical Engineering (1936)
 - Electrical Engineering (1936)
 - Industrial Engineering (1956)
 - Mechanical Engineering (1936)
 - Materials Engineering (1999)
 - 2 Programs Were Accredited for the First Time
 - Biosystems Engineering (2011)
 - Software Engineering (2011)

Accreditation Process

➤ Accrediting Body

- Accrediting Body: ABET
- ABET Accreditation
 - Applied Science Accreditation Commission (ASAC)
 - Computing Accreditation Commission (CAC)
 - **Engineering Accreditation Commission (EAC)**
 - Engineering Technology Accreditation Commission (ETAC)

Accreditation Process

➤ Overview of Process

- Self-Study Report; Site Visit; Due Process Response
- Criteria
 - Students, Curriculum, Faculty, Facilities, Institutional Support
 - Program Educational Objectives, Student Outcomes, Continuous Improvement
 - Program-Specific Criteria
- Shortcomings: Deficiencies, Weaknesses, Concerns
- On a Six-Year Cycle (if “Next General Review” is outcome)

Accreditation Process

- Three-Phase Process
 - Assessment Planning
 - 18-month Accreditation Process
 - Post-Accreditation Process

Accreditation Process

- Three-Phase Process
 - Assessment Planning (Phase I)
 - Implement the assessment process for program educational objectives and student outcomes.
 - Demonstrate a continuous improvement loop.
 - Collect student work examples.

Accreditation Process

➤ Three-Phase Process

- 18-month Accreditation Process (Phase II)
 - Request for Evaluation (RFE) [January 2012]
 - Self-Study Report [July 2012]
 - On-Site Visit [November 2012] – one Program Evaluator (PEV) per program and a chair & co-chair
 - Due Process Response Period [January 2013–June 2013]
 - Decision and Notification [August 2013]

Accreditation Process

- Three-Phase Process
 - Post-Accreditation Process (Phase III)
 - Re-visits, Reconsiderations & Appeals
 - Reporting Program Changes
 - Complaints to ABET
 - Continue Assessment Planning

Accreditation Process

➤ Value to Program and Graduates

- “Proof that a collegiate program has met certain standards necessary to produce graduates who are ready to enter their professions.” (ABET)
- “Students who graduate from accredited programs have access to enhanced opportunities in employment; licensure, registration and certification; graduate education and global mobility.” (ABET)

Accreditation Process

- Professional Service of ISU Engineering Faculty
 - ABET Presidents
 - David Holger (2009-2010)
 - Richard Seagrave (2005-2006)
 - Engineering Accreditation Commission
 - David Holger (Chair, 2004-2005)
 - Sarah Rajala (Vice Chair of Operations, 2013-2014)
 - Sarah Rajala (Chair-Elect 2013-14 and Chair 2014-15)
 - Team Chairs
 - Sarah Rajala
 - Diane Rover
 - Doug Jacobson
 - Program Evaluators
 - Seven trained PEVs across the college

Results

➤ Current Accreditation Status

- All twelve programs accredited (NGR)
- Program Results
 - AgE, BSE, CivE, CprE, EE, IE, MatE, SE: **No Shortcomings**
 - AeroE: Concern – PEO assessment and evaluation
 - ChemE: Weakness – Need 1.5 years of engineering topics
Concern – Hazard analysis course needed
 - ConstrE: Weakness – Student Outcome assessment and evaluation
Concern – Topic coverage documentation
 - ME: Concern – Student : Faculty Ratio too high
Concern – Student : Facility Ratio too high
- All Weaknesses addressed in our Due Process Response
- Concerns for Mechanical Engineering were not resolved
- Other Concerns were resolved or criterion eliminated by ABET

Response

- Chemical Engineering curriculum adjusted to address both the weakness and the concern by adding a required hazard control course.
- Construction Engineering formalized the coverage of several topics in their courses and syllabi.
- Mechanical Engineering continues to struggle with fantastic enrollment growth. New faculty were hired in the fall of 2013. Enhancement of facility is being considered.